

HIV HLA-A1 Epitopes:

Anchor residues: 2 (TSM), 3 (DE), 4 (P), C term (Y) [Kast (1994), DiBrino (1994b)]
 HLA-A1 Anchor/auxiliary residues: 2 (TS), 3(**DE**), 4 (P), 7 (L), 9 (**Y**) [Rammensee (1995)]

Location	Epitope	HLA specificity	Reference
Nef(66-80 BRU)	VGFPVTPQVPLRPMT	A1,B8	[Hadida (1992)]
Nef(93-106 BRU)	EKGGLEGLIHSQRR	A1,B8	[Hadida (1992)]
Nef(113-128 BRU)	WIYHTQGYFPDWQNYT	A1	[Hadida (1992)]
Nef(132-147 BRU)	GVRYPLTFGWCYKLVP	A1,B8	[Hadida (1992)]
Nef(182-198 BRU)	EWRFDSRLAFHHVAREL	A1,B8,B35	[Hadida (1992), Hadida (1995)]
Nef(192-206 BRU)	HHVARELHPEYFKNC	A1	[Hadida (1992)]

HIV HLA-A2 Epitopes:

Anchor residues: 2 (LI), C term (VL)	[Falk (1991), McMichael & Walker(1994)]
HLA-A*0201 Anchor/auxiliary residues: 2 (LM), 6 (V), 9 (VL)	[Rammensee (1995)]
HLA-A*0205 Anchor/auxiliary positions: 2 (VLIM), 6 (IVLA), 9 term (L)	[Rammensee (1995)]
p17(77-85 LAI) SLYNTVATL	A2 [Parker (1992), Parker (1994), Tsomides (1994)]
p17(88-115 ARV) VHQRIEIKDTKEALDKIEEEQNKSKKKA	A2 [Achour (1990)]
p24(151-159) TLNAWVKVV	A2 [Parker (1992), Parker (1994)]
p24(193-203 BRU) GHQAAMQMLKE	A2 [Claverie (1988)]
p24(219-233 BRU) HAGPIAPGQMREPRG	A2 [Claverie (1988)]
p24(263-279) KRWIILGLNKIYRMYC	A2 [Chen (1990)]
p15(418-433 BRU) KEGHQMKDCTERQANF	A2 [Claverie (1988), Kast (1994)]
p15(446-460 BRU) GNFLQSRPEPTAPPF	A2 [Claverie (1988)]
RT(346-354 LAI) VIYQYMDDL	A2 [McMichael & Walker(1994), Brander & Walker(1995)]
RT(476-484 LAI) ILKEPVHGV	A2 [Tsomides (1994), Parker (1992), Connan (1994)]
RT(640-648 HXB2R) ALQDSGLEV	A2 [Brander (1995)]
RT(956-964 HXB2R) LLWKGEGAV	A2 [Parker (1992), Parker (1994), Brander (1995)]

HIV HLA-A2 Epitopes Continued:

Anchor residues: 2 (LI), C term (VL)

HLA-A*0201 Anchor/auxiliary residues: 2 (**LM**), 6 (V), 9 (**VL**)

HLA-A*0205 Anchor/auxiliary positions: 2 (VLIM), 6 (IVLA), 9 term (**L**)

gp120(25-46 BRU)	<u>LWVTVYYGVP</u> V WKE A TTT <u>L</u> FCA	A2	[Dadaglio (1991)]
gp120(32-41 LAI)	K <u>LWVTVYYGV</u>	A2?	[Dupuis (1995)]
gp120(112-124 IIIB)	<u>HEDI</u> I SLWDQSLK	A2	[Clerici (1991)]
gp120(120-128 LAI)	<u>KTLPLCVTL</u>	A2?	[Dupuis (1995)]
gp120(192-199 HXB2R)	K <u>LTSCNTSV</u>	A2	[Dadaglio (1991), Brander (1995)]
gp120(197-205 HXB2R)	T <u>LTSCNTSV</u>	A2	[Garboczi (1992)]
gp120(295-312 BRU)	SVEINCTRPNNNTRKSI	A2	[Dadaglio (1991)]
gp120(315-329 IIIB)	RIQRGPGRAFVTIGK	A2,A11,A3	[Dadaglio (1991), Clerici (1991)]
gp120(374-380 BRU)	PEIVTHS	A2	[Dadaglio (1991)]
gp120(377-387)	NSGGEFFYSNS	A2	[Hickling (1990)]
gp120(381-392 BRU)	KNCGGEFFYCNS	A2	[Dadaglio (1991)]
gp120(428-443 IIIB)	KQIINMWQEVGKAMY	A2	[Cease (1987), Clerici (1991)]
gp120(421-440 LAI)	KQFINMWQEVGKAMY	A2	[Dadaglio (1991)]
gp120(494-513 BRU)	VKIEPLGVAPTKAKRRVVQR	A2	[Dadaglio (1991)]
gp41(747-755)	R <u>LVNGSLAL</u>	A2	[Parker (1992)]
gp41(814-823 LAI)	S <u>LLNATDIAV</u>	A2	[Dupuis (1995)]
gp41(834-848 IIIB)	DRVIEVVQGAYRAIR	A2	[Clerici (1991)]
gp41(829-837 LAI)	R <u>VIEVLQRA</u>	A2?	[Dupuis (1995)]
Nef(73-82 LAI)	QVPLRPMTYK	A2	[Robertson (1993)]
Nef(86-100 LAI)	DLSHFLKEKG G <u>LEG</u> L	A2,B35	[Robertson (1993)]
Nef(190-198 LAI)	AFHHVARE L	A2	[Hadida (1995)]

HIV HLA-A3.1 Epitopes:

Anchor residues: 2 (IL), 3 (F), C term (KY)

p17(18-26 LAI)	K<u>I</u>RRLRP<u>G</u>GG<u>K</u>	A3.1	[DiBrino (1993), McMichael & Walker(1994)]
p17(20-29)	R<u>L</u>RPGGGKK<u>Y</u>	A3.1,Bw62	[McMichael & Walker(1994), Brander & Walker(1995)]
RT(325-333)	A<u>I</u>FQSSMT<u>K</u>	A3.1,A11,A33	[Brander & Walker(1995)]
gp120(37-46 LAI)	T<u>V</u>YYGVPVW<u>K</u>	A3.1	[Johnson (1994a), Hammond (1995)]
gp41(768-778 NL43)	R<u>L</u>R<u>D</u>LLLIVTR	A3.1,A31	[Takahashi (1991), McMichael & Walker(1994)]
Nef(73-82 NL432)	Q<u>V</u>P<u>L</u>RP<u>M</u>TY<u>K</u>	A2,A3.1	[Koenig (1990), Culmann (1991), DiBrino (1993)]
Nef(84-92 LAI)	D<u>L</u>SHFL<u>K</u>E<u>K</u>	A3.1	[Culmann (1991), McMichael & Walker(1994)]

HIV HLA-A3 Epitopes:

HLA-A3 Anchor/auxiliary residues: 2 (**LVM**), 3 (FY), 6 (IMFVLT), 7 (ILMF), 9 (**KYF**), 10 (K) [Rammensee (1995)]

gp120(315-329 IIIB)	R<u>I</u>QRGPGRAF<u>V</u>TIG<u>K</u>	A2,A3,A11	[Achour (1993)]
Nef(73-82 BRU)	Q<u>V</u>P<u>L</u>RP<u>M</u>TY<u>K</u>	A3,A11,B35	[Culmann (1991)]
Nef(73-82 BRU)	V<u>P</u>LRP<u>M</u>TY<u>K</u>	A3,B35	[Carreno (1992)]
Nef(190-198 LAI)	A<u>F</u>HHVARE<u>K</u>	A3	[Hadida (1995)]

HIV HLA-A11 Epitopes:

Anchor residues: 2 (IL), C term (K)	[Zhang (1993), McMichael & Walker(1994)]
HLA-A*1101 Anchor/auxiliary residues: 2 (VIFY), 3 (MLFYIA), 7 (LIYVF), 9 (K), 10 (K), 11(K)	[Rammensee (1995)]
p17(84-92) T<u>L</u>YCVHQRI	A11
RT(325-333 LAI) A<u>IF</u>QSSMT<u>K</u>	A3.1,A11,A33
RT(325-349) AIFQSSMT <u>K</u> ILEPFRKQNPDIVIYQ	A11
RT(342-366 LAI) NPDIVIYQYMDDLYVGSDLEIGQHR	A11
RT(507-519 LAI) QIYQEPFKNLKTG	A11
gp120(315-329 IIIB) RIQRGPGR <u>A</u> FVT <u>I</u> G <u>K</u>	A2,A3,A11
Nef(75-82 LAI) QVPL <u>R</u> PMTY <u>K</u>	A11
Nef(75-82 LAI) P <u>L</u> RPMTY <u>K</u>	A11
Nef(84-92 LAI) A <u>V</u> DLSH <u>F</u> L <u>K</u>	A11

HIV HLA-A24 Epitopes:

Anchor/auxiliary residues: 2 (Y), 5 (IV), 6 (F), 9 (ILF)		[Rammensee (1995)]
gp120(53-62 LAI) LFCASCAKAY	A24	[Brander & Walker(1995)]
gp41(584-591 NL43) <u>Y</u> LKDQQ <u>L</u>	A24,B8	[Dai (1992)]
Nef(120-144 SF2) YFPDWQNYTPGPG <u>I</u> RYP <u>L</u> TFGWCYK	A24	[Jassoy (1992)]

HIV HLA-A25 Epitopes:

Nef(182-198 LAI) EWRFDSRLAFHHVAREL A25 [Cheynier (1992), Hadida (1995)]

HIV HLA-A26 Epitopes:

p24(164-183) AFSPEVIPMFSALSEGATPQ A26 P. Goulder, per. comm.

HIV HLA-A30 Epitopes:

gp41(854-863 HXB2) RRIRQGLERILL A30 and B8 [Lieberman (1992)]

HIV HLA-A31 Epitopes:

HLA-A*3101 Anchor/auxiliary residues: 2 (LVYF), 3 (FLYW), 6 (LFVI), 9 (**R**) [Rammensee (1995)]

gp41(606-614 LAI) SYHRLRDLLLIVTR human(A31) [Hammond (1995)]

gp41(770-780 BH10) RLRDLLLIVTR A3.1,A31 [Safrit (1994a), Safrit (1994b)]

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HIV HLA-A32 Epitopes:

gp41(701-720 BH10) VLSIVNRVRQGYSPLSFQTH A32 [Safrit (1994a)]

HIV HLA-A33 Epitopes:

HLA-A*3302 Anchor/auxiliary residues: 2 (AILFYV), 9 (**R**) [Rammensee (1995)]

p17(121-132 HXB2R) DTGHSNQVSQNY A33,B27 [Buseyne (1993)]

p24(263-277 LAI) KRWIILGLNKIVMRY A33 [Buseyne (1993)]

RT(325-333 LAI) AIFQSSMTK A3.1,A11,A33 K. Ariyoshi, unpublished

HIV HLA-B7 Epitopes:

Anchor residues: 1 (A), 2 (P), 3 (R), and C term (LV)

Anchor/auxiliary positions: 2 (**P**), 3 (R), 9 (**LF**)

RT(308-320)	WKGSPAIFQSSMT	B7
gp120(32-56)	TEKLWVTVYYGVPVVKEATTLFCA	B7
gp120(302-312 HXB2)	R PNNNTRKSI	B7,B18
gp41(848-856 LAI)	I PRRIRQGL	B7
Nef(126-138 BRU)	NYT P PGPVRYPLT	B7

[Englehard (1993), McMichael & Walker(1994)]

[Rammensee (1995)]

Brander & Walker(1995)]
[Johnson & Walker(1994)]
[Safrit (1994b), Hammond (1995)]
[Brander & Walker(1995)]
[Culmann (1991)]

HIV HLA-B8 Epitopes:

Anchor residues: 3 (K), 5 (K), and C terminus (I)

Anchor/auxiliary residues: 3 (**K**), 5 (**KR**), 9 (**L**)

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p17(24-32 LAI)	GG KKK YKL	B8
p17(93-101)	E I KDTKEAL	B8
p24(259-267 LAI)	GEIY K RWII	B8
p24(329-337 LAI)	D C KTILKAL	B8
RT(185-193 LAI)	G P KV K QWPL	B8
gp41(586-593)	YL K DQQLL	A24,B8
gp41(844-863 HXB2)	YRAIRHIPRRIRQGLERILL	B8
gp41(852-863 HXB2)	R R I RQGLERILL	A30,B8
Nef(66-80 BRU)	VGFPVTPQVPLRMT	A1 and B8
Nef(89-97 LAI)	F L K EKGGL	B8
Nef(93-106 BRU)	EKGGLEGLIHSQRR	A1,B8
Nef(132-147 BRU)	GVRYPLTFGWCYKLVP	A1,B8
Nef(182-198 BRU)	EWRFDSRLAFHHVAREL	A1,B8,A25,B35

[Sutton (1993), Hill (1992), McMichael & Walker(1994)]

[Rammensee (1995)]

S. Reid, submitted
[DiBrino (1994b)]
[Sutton (1993), Klenerman (1994), Nowak (1995)]
[Sutton (1993), Nowak (1995)]
[Sutton (1993), Nixon & McMicheal(1991), Phillips (1991)]
[Dai (1992), Johnson (1992), Sutton (1993)]
[Lieberman (1992)]
[Lieberman (1992)]
[Hadida (1992)]
[McMichael & Walker(1994)]
[Hadida (1992)]
[Hadida (1992)]
[Hadida (1992), Cheynier (1992), Hadida (1995)]

HIV HLA-B12(44) Epitopes:

p24(169-184 LAI) IPMFSALSEGATPQDL B12(44) [Buseyne (1993)]

HIV HLA-B13 Epitopes:

Nef(103-127 PV22) SQRRQDILDLWIYHTQGYFPDWQNY B13 [Jassoy (1993)]

HIV HLA-B14 Epitopes:

Anchor/auxiliary positions: 2 (RK), 3 (LYF), 5 (GH), 6 (IL), 9 (L) [DiBrino (1994a)]

p24(183-191 LAI)	DLNTMLNTV	B14	[Nixon & McMichael(1988), Johnson (1991), McMichael & Walker(1994)]
p24(298-306 LAI)	<u>D</u> RFWKTLRA	B14	[Brander & Walker(1995), McMichael & Walker(1994)]
RT(648-672)	ALQDSGLEVVTD sqy ALGI	B14	[Brander & Walker(1995)]
RT(663-672 LAI)	VTDS sqy ALGI	B14	[Kalams (1994), Brander & Walker(1995)]
gp41(584-592 HXB2)	<u>E</u> RYLK dqql	B14	[Jassoy (1993), Kalams (1994), DiBrino (1994a)]

HIV HLA-B17 Epitopes:

Nef(115-125 BRU)	YHTQGYFPQWQ	B17	[Culmann (1991)]
Nef(117-128 BRU)	TQGYFPDWQNYT	B17,B37	[Culmann (1991)]

HIV HLA-B18 Epitopes:

gp120(32-56)	TEKLWVTVYYGVPVWKEATTLFCA	B7,B18	[Johnson (1994a), Hammond (1995)]
Nef(132-147 BRU)	GVRYPLTFGWCYKLVP	A11,B18	[Culmann (1991)]
Nef(134-144 LAI)	RYPLTFGWCYK	B18	[Couillin (1994)]

HIV HLA-B27 Epitopes:

Anchor residues: 2 (R) C term (KR) [Jardetzky (1991), McMichael & Walker(1994)]

HLA-B*2702 Anchor/auxiliary positions: 2 (**R**), 9 (**FYILW**) [Rammensee (1995)]

HLA-B*2705 Anchor/auxiliary positions: 2 (**R**), 9 (**LFYMIRHK**) [Rammensee (1995)]

p24(263-272 LAI)	K <u>R</u> WIILGLN <u>K</u>	B27	[Klenerman (1994), McMichael & Walker(1994), Nowak (1995)]
gp120(312-320 LAI)	<u>G</u> RAFVTIG <u>K</u>	B27	[Jardetzky (1991), Parker (1992)]
gp41(791-799 LAI)	<u>G</u> RRGWEAL <u>K</u>	B27	[McMichael & Walker(1994), Lieberman (1992)]

HIV HLA-B35 Epitopes:

Anchor residues: 2 (P), C term (Y)			[Hill (1992), McMichael & Walker(1994)]
HLA-B*3501 Anchor/auxiliary residues: 2 (P), 9(YFLMI), 10 (Y)			[Rammensee (1995)]
p17(130-138)	<u>NSSKVSQNY</u>	B35	[Rowland-Jones (1995)]
p17(130-138 HIV-2) P <u>PSGKGGNY</u>	B 35		
p24(260-268 LAI)	<u>PIPVGDIY</u>	B35	[Rowland-Jones (1995)]
p24(245-253 HIV-2)	<u>N</u> <u>PVPVGNI</u> Y	B35	[Rowland-Jones (1995)]
RT(342-350 LAI)	<u>H</u> <u>PDIVIYQ</u> Y	B35	[Rowland-Jones (1995)]
RT(342-350 HIV-2)	<u>N</u> <u>PDVILIQ</u> Y	B35	[Rowland-Jones (1995)]
gp120(42-52 PV22)	<u>V</u> <u>PVWKEATTTL</u>	B35	[Brander & Walker(1995)]
gp41(605-615 LAI)	TAVPWNASW	B35	[Johnson (1994a), Hammond (1995)]
Nef(73-82 LAI)	<u>V</u> <u>PLRPMT</u> Y	B35,A3	[Culmann (1991), Rowland-Jones (1995)]
Nef(86-100 LAI)	DLSHFLKEKGLEG	A2,B35	[Buseyne (1993)]
Nef(182-198 LAI)	EWRFDSRLAFHHVAREL	A1,B8,A25,B35	[Hadida (1995), Buseyne (1993)]
Nef(186-193 LAI)	DSRLAFHH	B35	[Hadida (1995)]

HIV HLA-B37 Epitopes:

HLA-B*3701 Anchor/auxiliary residues: 2 (DE), 5 (VI), 8 (FML), 9 (IL)		[Rammensee (1995)]
p24(265-279)	KRWIILGLNKIVRMYC	B37
Nef(117-128 BRU)	TQGYFPDWQNYT	B17,B37

HIV HLA-B51 Epitopes:

HLA-B5101 Anchor/auxiliary residues: 2 (APG) 9 (FI)		[Rammensee (1995)]
HLA-B5102 Anchor/auxiliary residues: 2 (PAG), 3 (Y), 9 (IV)		[Rammensee (1995)]
HLA-B5103 Anchor/auxiliary residues: 2 (APG), 3 (Y), 9 (VIF)		[Rammensee (1995)]
HLA-B51 Anchor/auxiliary residues: 2 (P), 3 or 4 (VL), 9 (VLI)		[Connan (1994)]
p24(324-335 PV22)	QNANPDCKTILK	B51
Nef(186-194 BRU)	DSRL <u>A</u> FHH V	B51

HIV HLA-B52 Epitopes:

HLA-B5201 Anchor/auxiliary residues: 2 (Q), 3 (FYI), 5 (LIV), 8 (**IV**), 9 (**IV**) [Rammensee (1995)]

Nef(188-196 LAI) RLAFFHVAR B52 [Hadida (1995)]

Nef(190-198 LAI) AFHHVAREL B52 [Hadida (1995)]

HIV HLA-B53 Epitopes:

Anchor residues: 2 (P), C term (YFW) [Hill (1992), McMichael & Walker(1994)]

Anchor/auxiliary residues: 2 (**P**) [Rammensee (1995)]

p17(173-181 HIV-2) TPYDINQML B53 [Gotch (1993)]

HIV HLA-B55 Epitopes:

gp120(42-51 PV22) VPVWKEATTT B55 [Brander & Walker(1995)]

HIV HLA-B57 Epitopes:

p24(105-114) TSTLQEIQIGW B57,B5801 P. Goulder, per. comm.

p24(147-155 PV22) ISPRTLNAW B57 [Johnson (1991), Brander & Walker(1995)]

HIV HLA-B58 Epitopes:

p24(105-114) TSTLQEIQIGW B57,B5801 P. Goulder, per. comm.

HIV HLA-Bw52 Epitopes:

p24(193-214 BH10) GHQAAMQMLKETINEEAAEWDR Bw52 [Johnson (1991)]